Washington Dulles International Airport Benchmarks

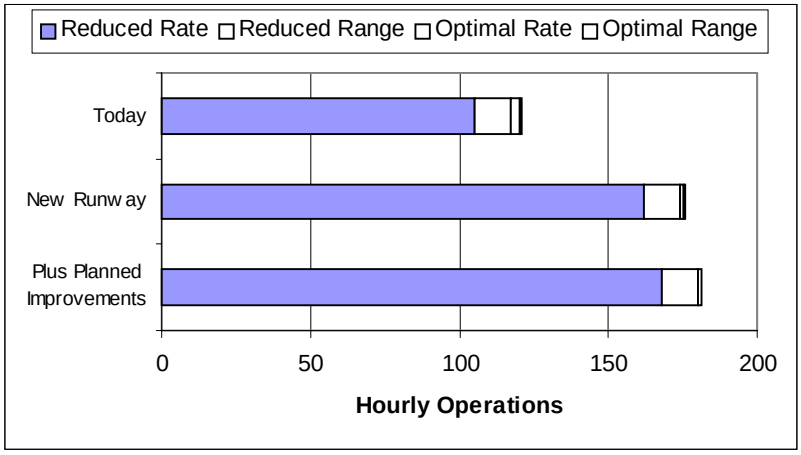
- The current capacity benchmark at Washington Dulles International is 120-121 flights per hour in good weather.
- Current capacity falls to 105-117 flights (or fewer) per hour in adverse weather conditions, which may include poor visibility, unfavorable winds, or heavy precipitation.
- Periods of excess arrival and departure demand occur about 1 hour of the day in both good and adverse weather conditions, and can be handled efficiently in off-peak periods.
- Overall, about 2% of the flights at Dulles are delayed longer than 15 minutes.
- A new runway, planned for completion in 2004, is expected to improve Dulles's capacity benchmark by 46% (to 175-176 flights per hour) in good weather and 54% (to 162-174 operations per hour) in adverse weather conditions.
- In addition to the new runway, technology and procedural improvements are expected to improve the capacity at Dulles for good weather by a total of 49% (to 179-180 flights per hour) and a total of 60% (to 168-180) in adverse weather conditions.
- These capacity increases could be brought about as a result of:
  - ADS-B/CDTI (with LAAS), which provides a cockpit display of the location of other aircraft and will help the pilot maintain the desired separation more precisely.
  - FMS/RNAV routes, which allow a more consistent flow of aircraft to the runway.
- Demand is projected to grow by 20% in the next decade. Over the same period capacity is expected to meet or exceed the expected growth in demand, primarily due to the new runway. Thus delays are expected to decline in the future.

IAD – Washington Dulles International Airport

Airport Capacity Benchmarks – These values are for total operations achievable under specific conditions:

- **Optimum Rate** – Visual Approaches (VAPS), unlimited ceiling and visibility
- **Reduced Rate** – Most commonly used instrument configuration, below visual approach minima

Scenario	Optimum Rate	Reduced Rate
Today	**120-121**	**105-117**
New Runway	**175-176**	**162-174**
Plus planned improvements	**179-180**	**168-170**



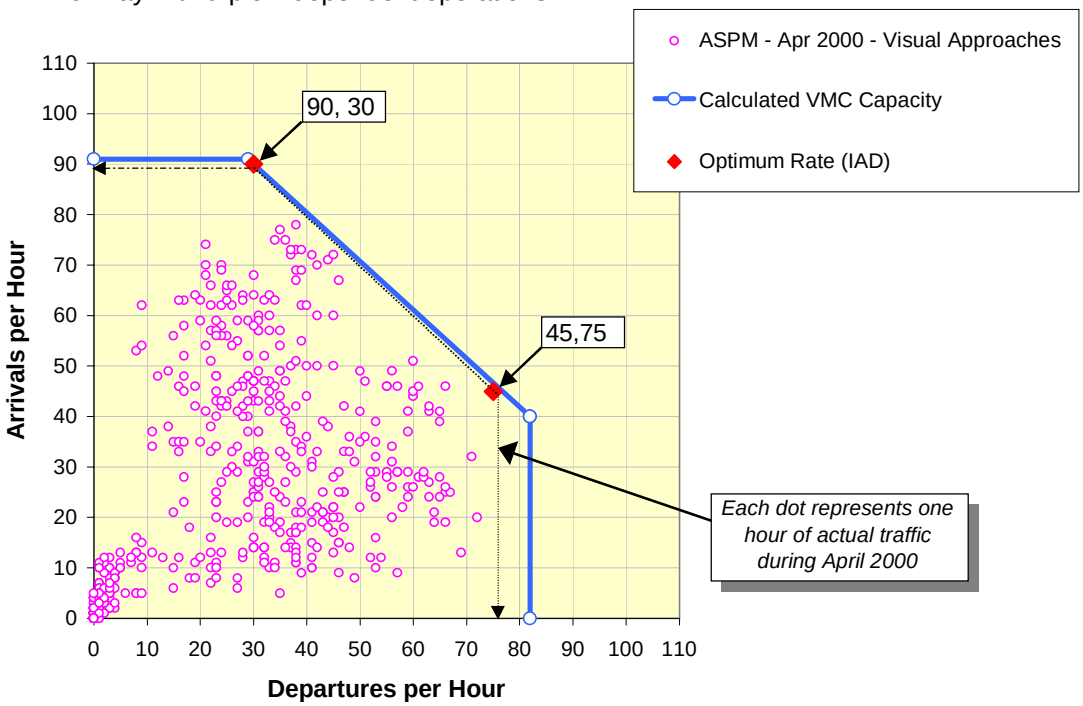
- The benchmarks describe an achievable level of performance for the given conditions, which can occasionally be exceeded. Lower rates can be expected under adverse conditions. Note: In some cases, facilities provided separate unbalanced maximum arrival and departure rates.
- Planned Improvements include:
  - ADS-B/CDTI (with LAAS) – provides a cockpit display of the location of other aircraft. This will help the pilot maintain the desired separation more precisely.
  - FMS/RNAV Routes – allows more consistent delivery of aircraft to the runway threshold.
- Benefits from Planned Improvements assume that all required infrastructure and regulatory approvals will be in place. This includes aircraft equipage, airspace design, environmental reviews, frequencies, training, etc. as needed.
- **Note:** These benchmarks do not consider any limitation on airport traffic flow that may be caused by non-runway constraints at the airport or elsewhere in the NAS. Such constraints may include:
  - Taxiway and gate congestion, runway crossings, slot controls, construction activity
  - Terminal airspace, especially limited departure headings
  - Traffic flow restrictions caused by en route miles-in-trail restrictions, weather or congestion problems at other airports

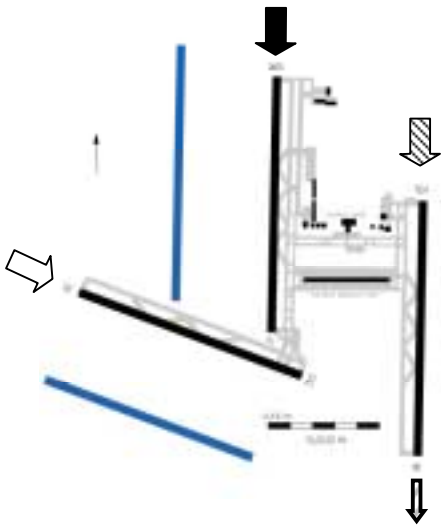
These values were calculated for the Capacity Benchmarking task and should not be used for other purposes, particularly if more detailed analyses have been performed for the individual programs.

The list of Planned Improvements and their expected effects on capacity does not imply FAA commitment to or approval of any item on the list.

Current Operations – Optimum Rate

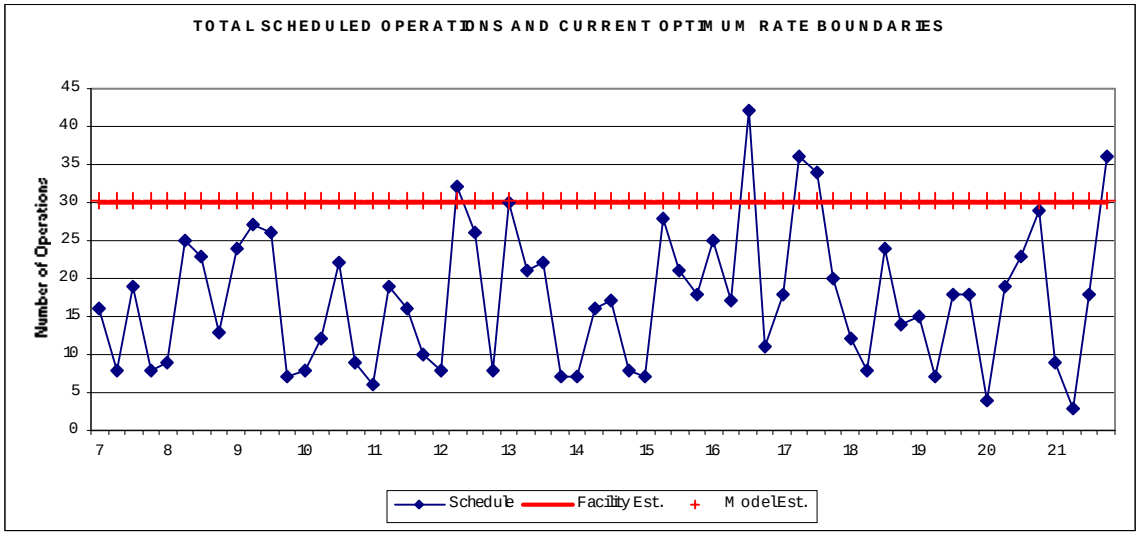
- Visual approaches, visual separation
  - Optimum Rate of (90, 75 - 120 maximum) was reported by the facility
  - Arrive Runways 19L/R & 12, Depart Runways 19L/R (90, 30 arrival priority shown below)
  - Arrive Runway 19R, Depart Runways 19L/30 (45, 75 departure priority not shown)
- ASPM data is actual hourly traffic counts for the month of April 2000 for Visual Approach conditions. This data includes other runway configurations and off-peak periods.
- Solid line represents the calculated airport capacity during a busy hour, and the tradeoff between arrivals and departure rates
- The capacity model can only approximate the operations at IAD. Future scenarios used the third N/S runway with triple independent operations

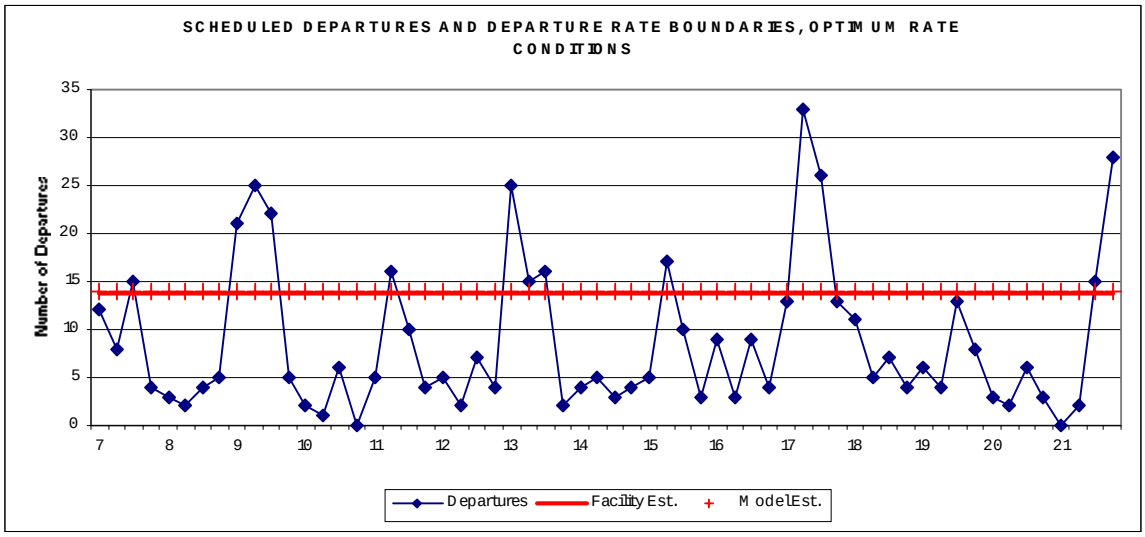


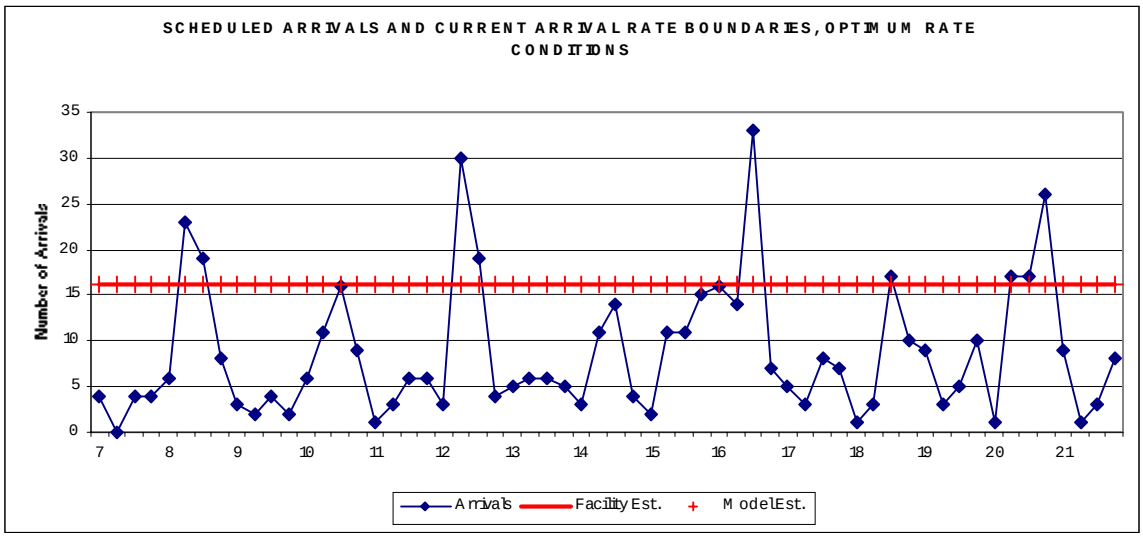


IAD – Washington Dulles International Airport

Scheduled Departures and Arrivals and Current Departure and Arrival Rate Boundaries (15-Minute Periods) Under Optimum Rate Conditions

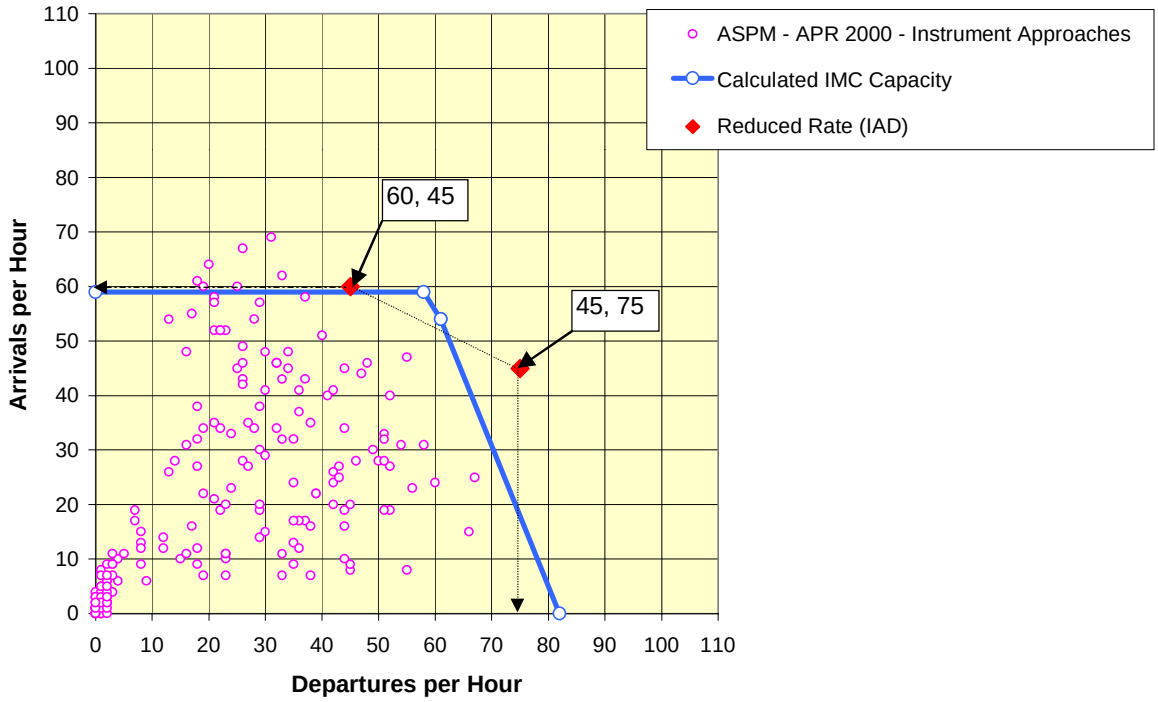


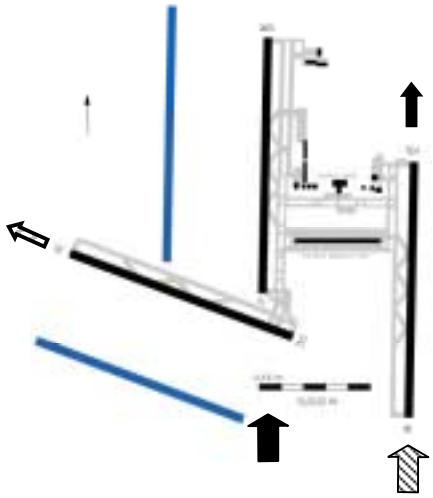




Current Operations – Reduced Rate

- Instrument approaches (below Visual Approach Minima)
  - Reduced rate of (60, 60 -120 maximum) was reported by the facility
  - Arrive Runways 01L/ Depart Runway 30 (60, 60 arrival priority shown below)
  - Arrive Runway 19L, Depart Runways 19R/30 (45, 75 departure priority not shown)
- Reduced Rate of 60, 45 was reported by the facility for arrival priority configuration shown below. Reduced Rate of 45, 75 was reported by the facility for departure priority configuration not shown.
- ASPM data for “Instrument Approaches” can include marginal VFR, with higher acceptance rates
- Chart below represents observed traffic and expected rates in terms of operations per hour Future scenarios used the third N/S runway with triple independent operations





IAD – Washington Dulles International Airport

Scheduled Departures and Arrivals and Current Departure and Arrival Rate Boundaries (15-Minute Periods) Under Reduced Rate Conditions